

PATENT SPECIFICATION

860,216

DRAWINGS ATTACHED.



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COMPLETE SPECIFICATION.

Improvements in or relating to Machines for Moulding Soil Blocks.

I, ARTHUR SIDNEY WARNE, a British Subject, of 59A High Street, Meppershall, Shefford, Bedfordshire, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement :

This invention relates to machines for moulding soil blocks, the object being to provide improvements therein.

Machines for moulding soil blocks are known in which there is a rotatable table provided with a plurality of moulds, the table being adapted to rotate so as to bring each mould successively into filling, compressing and ejecting positions. Usually the moulds are filled, at the filling position, by hand, soil being heaped upon an adjoining fixed table or platform and then fed into each mould as it arrives at the filling position.

A machine for moulding soil blocks, according to this invention, comprises a container mounted rotatably on a vertical axis adjacent the filling position and having its bottom end open with part thereof overlying the position which is occupied by a mould at the filling position, the said open end of the container being in substantially close contact with the rotatable table and an adjacent fixed table or platform whereby the said fixed and rotatable tables provide a closure, except for any mould or moulds which register with the container, the container being adapted to contain soil, the container being connected to a vertical axial spindle by a spider or the like, the said spindle being mounted rotatably in the said fixed table, and vanes or blades being fixed to and projecting from the said spindle so as to rotate therewith.

Upon the container being rotated, soil contained therein will be fed to moulds in the

rotary table which register with the bottom end of the container as the rotary table rotates.

The vanes or blades may extend the whole or part of the height of the container. The blades may be curved in section so as to stir the soil and move it in the direction of the moulds as the container rotates.

There may be another blade, straight or curved in section, disposed within the container and mounted on a shaft which in turn is mounted in the fixed table and projects upwardly into the container through the open bottom thereof. The said shaft is spring urged angularly in order to press the outer edge of the blade against the inner surface of the container wall whereby the blade acts as a scraper to move soil from the wall of the container, prevent soil building up on the wall of the container, and direct the soil towards the moulds. The said blade may extend the whole or part of the height of the container.

One embodiment of the invention is shown diagrammatically in the accompanying drawings, wherein :—

Fig. 1 is a plan view ; and

Fig. 2 is a sectional elevation taken on line II—II of Fig. 1.

The machine is provided in the known manner with a rotary table 11 provided with a plurality of moulds 12 so that, as the table rotates, each mould is brought in succession to a filling position 13, a compressing position 14, and an ejecting position 15. A fixed base member 16 provides a bottom for the moulds at the filling and compressing positions, but does not extend below the moulds at the ejecting position. The machine also is provided at the compressing position 14 with a ram 17 or other means

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adapted to compress the soil in a mould so as to form a soil block. At the ejecting position 15 the machine is provided with means for ejecting a moulded soil block from a mould, the empty mould then again passing on towards the filling position 13. The rotary table 11 is rotated by a shaft 18.

Adjacent the filling position 12 there is a fixed table or platform 19 so shaped and arranged as to provide, with the rotary table 11, a substantially continuous planar surface.

A cylindrical container 20 is disposed, with its axis vertical, above the fixed table 19 and rotary table 11 at the filling position 12, the bottom end 21 of the container 20 being open and closely adjacent the said planar surface so that said tables 11 and 19 provide a closure for the bottom end of the chamber 22 formed within the container 20. The bottom end 21 of the container 20 overlies the rotary table 11 sufficiently for at least one mould 12 in the rotary table to register with said bottom end.

The container 20 is provided axially with a spindle 23 which is mounted in the table 19 so as to be rotated by a suitable driving means. The container 20 is connected to the spindle 23 by a spider 24 or other means so that the container 20 and spindle 23 will rotate together.

Vertical vanes or blades 25 are secured to and project outwardly from the spindle 23, and the said vanes or blades are curved in section, viewed in plan, with the convex side facing the direction towards which the container 20 rotates.

A blade 26 is disposed within the container 20 and is fixed to a shaft 27 which is mounted in the fixed table 19 so as to oscillate therein, the said shaft being provided below the table 19 with an arm 28 to which is attached a tension spring 29 in such manner that the outer edge 30 of the blade 26 is constantly urged into contact with the inner surface of the wall of the container 20.

The rotary table 11 rotates in the direction of the arrow 31 (Fig. 1), and the container 20 rotates in the direction of the arrow 32. The blade 26 projects from the shaft 27 opposed to the rotation direction of the container 20 so that the blade 26 scrapes soil off the wall of the container as the latter rotates.

The blades 25 and 26 extend the whole of that portion of the height of the container 20 which is below the spindle 24, but in some cases some or all of the said blades may extend only part of the said height.

Soil is fed into the open top 33 of the container 20 by any suitable means.

It will be seen that soil contained within the container 20 will be fed to each mould 12

as the latter registers with the open bottom end 21 of the container, and the vanes or blades 25 will constantly urge the soil away from the spindle 23 and keep the soil moving so as to be fed easily into the moulds. The blade 26 will constantly scrape the soil from the wall of the container 20 and guide it towards the mould 12 at the filling position; the blade 26 will prevent soil building up at the wall of the container 20. An automatic feeding device thereby is provided to feed moulds at a speed much greater than can be achieved by manual feeding of the moulds.

By reason of the container 20, vanes 25 and spindle 23 all rotating together as an integral unit, and in conjunction with the spring-urged scraper blade 26, the soil is kept moving without being compressed against the wall of the container 20.

WHAT I CLAIM IS:—

1. A machine for moulding soil blocks comprising a rotatable table provided with a plurality of moulds, the table being adapted to rotate so as to bring each mould successively into filling, compressing and ejecting positions, characterised in that a container is mounted rotatably on a vertical axis adjacent the filling position and has its bottom end open with part thereof overlying the position which is occupied by a mould at the filling position, the said open end of the container being in substantially close contact with the rotatable table and an adjacent fixed table or platform whereby the said fixed and rotatable tables provide a closure, except for any mould or moulds which register with the container, the container being adapted to contain soil, the container being connected to a vertical axial spindle by a spider or the like, the said spindle being mounted rotatably in the said fixed table, and vanes or blades being fixed to and projecting from the said spindle so as to rotate therewith.

2. A machine according to Claim 1, further comprising a blade disposed within the container and adapted to scrape the inner surface of the wall of the container as the latter rotates.

3. A machine according to Claim 2 wherein the said blade is spring urged into contact with the wall of the container.

4. A machine for moulding soil blocks, constructed and arranged substantially as described herein and shown in the accompanying drawings.

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PROVISIONAL SPECIFICATION.

Improvements in or relating to Machines for Moulding Soil Blocks.

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This invention relates to machines for moulding soil blocks, the object being to provide improvements therein.

Machines for moulding soil blocks are known in which there is a rotatable table provided with a plurality of moulds, the table being adapted to rotate so as to bring each mould successively into filling, compressing and ejecting positions. Usually the moulds are filled, at the filling position, by hand, soil being heaped upon an adjoining fixed table or platform and then fed into each mould as it arrives at the filling position.

A machine for moulding soil blocks, according to this invention, comprises a container mounted rotatably on a vertical axis adjacent the filling position and having its bottom end open with part thereof overlying the position which is occupied by a mould at the filling position, the said open end of the container being in substantially close contact with the rotatable table and an adjacent fixed table or platform whereby the said fixed and rotatable tables provide a closure, except for any mould or moulds which register with the container, the container being adapted to contain soil.

Upon the container being rotated, soil contained therein will be fed to moulds in the rotary table which register with the bottom end of the container as the rotary table rotates.

The container may be provided with vanes or blades which extend the whole or part of the vertical length of the container and which project inwardly from the inner surface of the container wall, and other vanes or blades may project outwardly from the shaft of the container. The blades may be curved in section so as to operate to move the soil in the container as the container rotates.

One form of machine according to this invention is provided in the known manner with a rotary table provided with a plurality of moulds so that, as the table rotates, each mould is brought in succession to filling, compressing and ejecting positions. The machine also is provided at the compressing position with a ram or rams, or other means, adapted to compress the soil in a mould so as to form a soil block. At the ejecting position the

machine is provided with means for ejecting a moulded soil block from a mould, the empty mould then again passing on towards the filling position.

Adjacent the filling position there is a fixed table or platform so shaped and arranged as to provide, with the rotary table, a substantially continuous planar surface.

A cylindrical container is disposed, with its axis vertical, above the fixed and rotary tables at the filling position, the bottom end of the container being open and closely adjacent the said planar surface so that said tables provide a closure for the bottom end of the chamber formed within the container. The bottom end of the container overlies the rotary table sufficiently for at least one mould in the rotary table to register with said bottom end.

The container is provided axially with a spindle and is mounted so as to be rotated about its axis by a suitable driving means. The container may be connected to the spindle by spiders or other means so that the container and spindle will rotate together. Means are provided to charge the container with soil at its top end or otherwise suitably.

Vertical vanes or blades are secured to and project inwardly from the wall of the container, and preferably the said vanes or blades are curved in section, which is viewed in plan, with the convex side facing the direction towards which the container rotates. Similar curved vanes or blades are secured to and project outwardly from the spindle, the convex side also facing the direction into which the container rotates.

It will be seen that soil contained within the container will be fed to each mould as it registers with the bottom end of the container, and the vanes or blades will constantly urge the soil away from the wall of the container and from the spindle and keep the soil moving so as to be fed easily into the moulds. An automatic feeding device thereby is provided to feed moulds at a speed much greater than can be achieved by manual feeding of the moulds.

By reason of the container, vanes and spindles all rotating together as an integral unit, the soil is kept moving without being compressed against the wall of the container.

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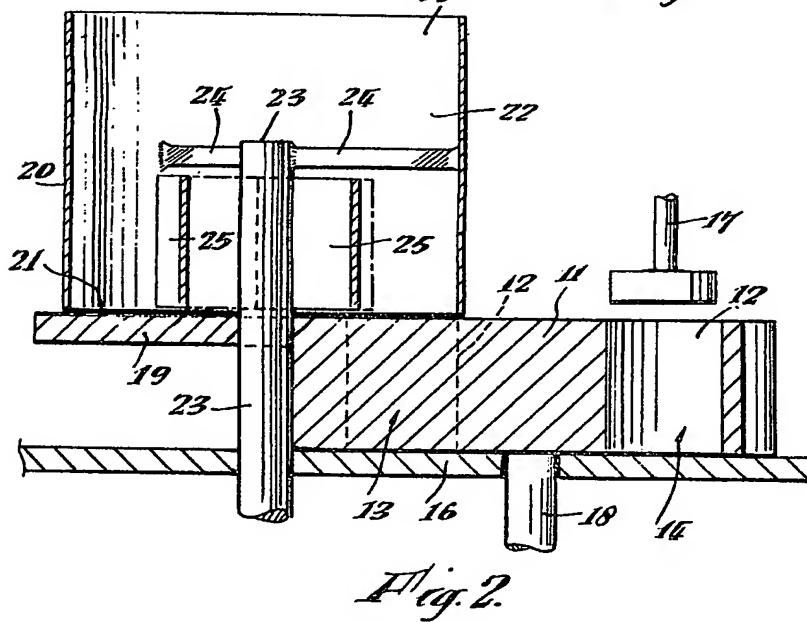
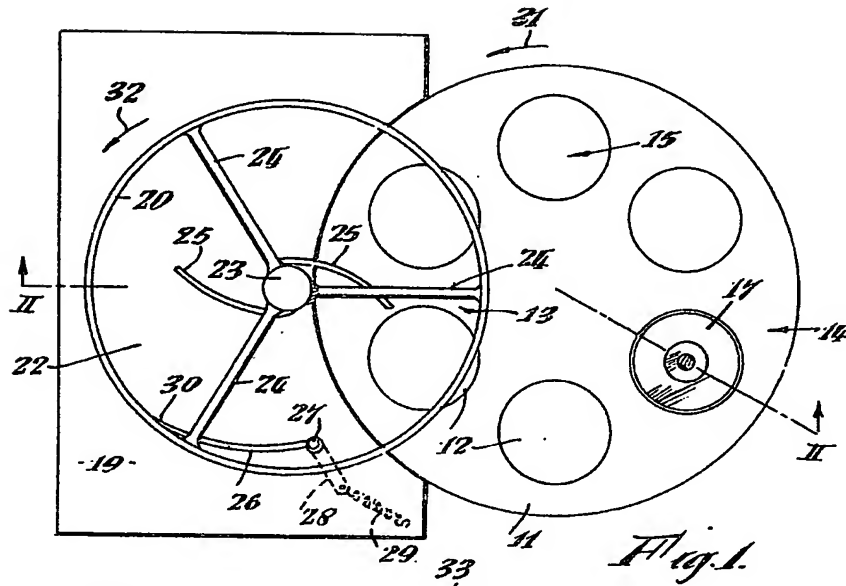
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COMPLETE SPECIFICATION

1 SHEET

This drawing is a reproduction of
the Original on a reduced scale.



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